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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Takashi Sakakura

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EXAMINER

KASRAIAN, ALLAHYAR

ART UNIT

PAPER NUMBER

2617

NOTIFICATION DATE

DELIVERY MODE

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ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

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Office Action Summary	Application No. 10/703,629	Applicant(s) SAKAKURA, TAKASHI	
	Examiner ALLAHYAR KASRAIAN	Art Unit 2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 November 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☒ Claim(s) 15-18 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Remarks

1. The present Office Action is in response to Applicant's amendment filed on 11/18/2008. **Claims 1-18** are now pending in the present application. **This Action is made FINAL.**

Response to Arguments

2. Applicant's arguments filed on 11/18/2008 have been fully considered but they are not persuasive.

On the fourth and fifth paragraphs of page 7 of the Applicant's arguments/remarks with respect to claims 1 and 8, Applicant argues, "Matsunaga fails to teach or suggest each and every claimed element... The Examiner relies on Fig. 5 and paragraphs [0109], [0114], and [0123] as disclosing the above-identified claim feature. It is respectfully submitted that the Examiner's interpretation of the relied upon sections of Matsunaga is totally erroneous." Examiner respectfully disagrees with Applicant and still believes Matsunaga teach the limitation "wherein the statistical information storage field includes an already-processed indicating flag region which indicates whether the router apparatus has discarded the burstly transmitted received IP packets associated with the target session" on FIG. 5, par. 0109-0114 and 0123.

On the second paragraph of page 8 of the Applicant's arguments/remarks with respect to claims 1 and 8, Applicant argues, "It appears that the Examiner is relying on the "tagging" operation as disclosed in paragraphs [0112] and [0123] as disclosing the

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claimed statistical information storage field which includes an *already-processed indicating flag region* which *indicates whether the router apparatus has discarded the burstly transmitted received IP packets associated with the target session.* It is respectfully submitted that the claimed invention is distinguished from Matsunaga at least for the reason that in Matsunaga, 'tagging' is performed simply to identify which packets belong to a flow exceeding the maximum limiting rate. Nowhere does Matsunaga teach or suggest a statistical information storage field which includes an already-processed indicating flag region which *indicates* whether these identified packets (which belong to a flow exceeding the maximum limiting rate) have been *discarded.*" Examiner notes, even though Matsunaga discloses the processed dropped (disabled) packet is indicated with a tag in the (statistical) table 5, the interpretation of *an already-processed indicating flag region* could be considered only as an INDICATION of processed packets which is clearly disclosed on FIG. 5 and descriptions on par. 0109-0114, 0123 of Matsunaga (note to FIG. 5 for the *Drop* indication under 538).

On the third paragraph of page 8 of the Applicant's arguments/remarks with respect to claims 1 and 8, Applicant arguments refers to par. 0131 of Matsunaga which describes the ECN-flag for use of different embodiment of Matsunaga's invention. Applicant inaccurately relies on a different embodiment of Matsunaga to disqualify the claim rejection which was not indicated by Examiner on current and previous Office Actions.

Therefore, claims 1 and 8 are rejected under 35 U.S.C. 102(e) as being anticipated by Matsunaga.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless – (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. **Claims 1-3, 5-10, and 12-14** are rejected under 35 U.S.C. 102(e) as being anticipated by **Matsunaga (U.S. Patent Application Pub. # 2004/0066746 A1)**.

Consider **claim 1**, Matsunaga clearly shows and discloses a router apparatus comprising (see FIG. 2 or FIG. 4 for Packet Transfer Apparatus 10 or 11):

a transfer rate measurement unit for determining a transfer rate at a time of receiving IP packets (see Fig. 2 for Packet Transfer measuring Means 304);

an IP packet identification unit (see Flow Identifying Means 302) for identifying IP packets that are burstly transmitted to said router apparatus based on both a protocol for a transport layer, which is applied to received IP packets, and said transfer rate at the time of receiving IP packets (FIGS. 2 and 4, par. 0035 and 0074),

wherein each received IP packets is assigned a priority (par. 0011, 0020 and 0038) based on an amount of data stored in a statistical information storage field which

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stores statistical information of a target session (FIG. 2 or 4 and FIGS. 3 and for Flow Identification Database 303 considered with means 302, 304-306 (or 311-313) and 314, as statically information storage field and the target session is considered as a corresponding flow (indicated in FIG. 3, transport layer protocol 542; see also par. 0113-0115); par 0074-0076 and more in details in par. 0079-0096) and the transfer rate of each received IP packets and a transfer rate at a time of receiving IP packets, and for disabling a transfer of received IP packets that are determined to be burstly transmitted to said router apparatus according to said priority (see lines 2-4 of par. 0059, means 302 classifies the received packet based on transfer rate measurement and one of the classification is higher than maximum limiting rate which is considered as burstly IP packets. See lines 1-3 of par. 0110 for the disabling limitation; and lines 1-3 of par. 0113 for indication of transport layer limitation; and par. 0011, 0020 and 0038 for determining priority); and

wherein the statistical information storage field includes an already-processed indicating flag region which indicates whether the router apparatus has discarded the burstly transmitted received IP packets associated with the target session (FIG. 5, for processing method when maximum limiting rate is exceeded 538, par. 0109-0114, 0123).

Consider **claim 8**, Matsunaga clearly shows and discloses a method for disabling burst transmission to a router apparatus, comprising (FIG. 2 or 4, par. 0035):

determining a transfer rate at a time of receiving IP packets (see Fig. 2 for Packet Transfer measuring Means 304);

identifying IP packets that are burstly transmitted to said router apparatus based on both a protocol for a transport layer, which is applied to received IP packets, and said transfer rate at the time of receiving IP packets (FIG. 2 or 4, par. 0035);

assigning each received IP packets a priority based on an amount of data stored in a statistical information storage field which stores statistical information of a target session and the transfer rate of each received IP packets (par. 0011, 0020 and 0038; FIG. 2 or 4 and FIGS. 3 and 5 for Flow Identification Database 303 considered with means 302, 304-306 (or 311-313) and 314, as statically information storage field and the target session is considered as a corresponding flow (indicated in FIG. 3, transport layer protocol 542; see also par. 0113-0115); par 0074-0076 and more in details in par. 0079-0096); and

disabling a transfer of received IP packets that are determined to be burstly transmitted to said router apparatus according to said priority (par. 0035),

wherein the statistical information storage field includes an already-processed indicating flag region which indicates whether the router apparatus has discarded the burstly transmitted received IP packets associated with the target session (FIG. 5, for processing method when maximum limiting rate is exceeded 538, par. 0109-0114, 0123).

Consider **claims 2 and 9 as applied to claims 1 and 8 above respectively**, Matsunaga clearly shows and discloses in a case of receiving IP packets to which TCP

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is applied as the protocol for the transport layer, said IP packet identification unit discards said IP packets so as to cause a terminal that is a sending source of said IP packets to adjust the transfer rate to a predetermined value or below when the transfer rate at the time of receiving said IP packets exceeds the predetermined value (see par. 0114 and 0115 for determining whether the transport layer is TCP when the maximum limiting rate is exceeded then the transmission of packet is stopped and sending acknowledgement packets to the source).

Consider **claims 3 and 10 as applied to claims 1 and 8 above respectively**, Matsunaga clearly shows and discloses in a case of receiving IP packets to which UDP is applied as the protocol for the transport layer, said IP packet identification unit discards all IP packets associated with an identical session when the transfer rate at the time of receiving said IP packets exceeds a predetermined value (see lines 1-3 of par. 0110, “if transport layer protocol is UDP, the processing method when maximum limiting rate is exceeded is set to (Drop)...”).

Consider **claims 5 and 12 as applied to claims 1 and 8 above respectively**, Matsunaga clearly shows and discloses said transfer rate measurement unit calculates the transfer rate only for sessions in which a time required for reception of preceding IP packets does not exceed a predetermined time (see par. , “the queue selection method in these queue selection means 307,308 and 309... by which expected transfer times

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are managed on the basis of... maximum limiting rate... and a packet is extracted from the queue of a flow having minimum expected transfer time.”).

Consider **claims 6 and 13 as applied to claims 2 and 9 above respectively**, Matsunaga clearly shows and discloses dynamically sets the predetermined value based on a number of sessions stored in said router apparatus (see lines 3-6 of par. 0025, “maximum limiting rates preset for flows {F1, F2,..., Fi} which belong to group 1 and Msum be sum total of these maximum limiting rates...”).

Consider **claims 7 and 14 as applied to claims 2 and 9 above respectively**, Matsunaga clearly shows and discloses dynamically sets the predetermined value according to an amount of transferred data stored in said router apparatus (see lines 6-10 of par. 0117, “on the basis of the transport layer protocol of the flow identification conditions, the processing method when the maximum limiting rate is exceeded, it is possible to reduce buffer necessary for shaping and also reduce the processing load required for shaping”).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
 2. Ascertaining the differences between the prior art and the claims at issue.
 3. Resolving the level of ordinary skill in the pertinent art.
 4. Considering objective evidence present in the application indicating obviousness or nonobviousness.
6. **Claims 4 and 11** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Matsunaga (U.S. Patent Application Pub. # 2004/0066746 A1)** in view of **Lo et al. (U.S. Patent Application Pub. # 2003/0095567 A1)**.

Consider **claims 4 and 11 as applied to claims 1 and 8 above respectively**, Matsunaga disclosed the claimed invention except said IP packet identification unit transfers IP packets to which RTP is applied as the protocol for the transport layer on a priority basis, and disables a transfer of IP packets to which other protocols are applied.

In the same field of endeavor, Lo et al. clearly show and disclose said IP packet identification unit transfers IP packets to which RTP is applied as the protocol for the transport layer on a priority basis, and disables a transfer of IP packets to which other protocols are applied (see FIG. 3 and lines 10-20 of paragraph 0022, "IP packets are analyzed by the protocol processor 44 and if a packet is identified as an RTP packet, the packet is redirected, away from the conventional IP/UDP processing as performed on the CPU 46 by an Operating System routine, and processed by the RTP handler module 48. The RTP handler module 48 preferably comprises firmware or a microcode

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routine executed by the protocol processor 44. The RTP handler module 48 is thus separate from the operating system and preferably executes on a separate processor...”).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the real time protocol (RTP) identifier and processor as taught by Lo et al. to the flow identification means 302 of packet transfer apparatus 10 as disclosed by Matsunaga for the purpose of detecting and the processing of RTP flows with superiority separated from other flows. The proper motivation is to separate and process and the accelerate processing of RTP protocol from other protocols.

Allowable Subject Matter

7. Claims 15-18 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to Applicant's disclosure.

- a. Epps et al. (U.S. Patent # 7177276 B1) disclose Pipelined packet switching and queuing architecture

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- b. Robinett et al. (U.S. Patent # 6831892 B2) disclose Bandwidth optimization of video program bearing transport streams.
- c. Epps et al. (U.S. Patent # 6813243 B1) disclose High-speed hardware implementation of red congestion control algorithm.
- d. Kawakatsu et al. (U.S. Patent # 5119367) disclose Method and a node circuit for routing bursty data.

9. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

10. Any response to this Office Action should be **faxed to (571) 273-8300 or mailed to:**

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Hand-delivered responses should be brought to

Customer Service Window
Randolph Building
401 Dulany Street
Alexandria, VA 22314

11. Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Allahyar Kasraian whose telephone number is (571) 270-1772. The Examiner can normally be reached on Monday-Thursday from 8:00 a.m. to 5:00 p.m.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Rafael Pérez-Gutiérrez can be reached on (571) 272-7915. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free) or 571-272-4100.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist/customer service whose telephone number is (571) 272-2600.

*/Allahyar Kasraian/
Examiner, Art Unit 2617*

A.K./ak

*/Rafael Pérez-Gutiérrez/
Supervisory Patent Examiner, Art Unit 2617*

March 1, 2009